

Occupational reclassification and changes in distribution by gender

During the 1970's, the most important shift in the distribution of the sexes by occupation was the larger female representation among managers; the proportion of specific occupations which were male-dominated declined, but the share which were 'female-intensive' remained the same

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It is well known that women are concentrated in different occupations than men. Because this concentration plays a crucial role in accounting for male-female earnings differentials, it is important to know the degree to which women have been moving into jobs that have traditionally been held by men.¹

The decennial censuses provide very detailed occupational data and serve as the most important benchmarks for assessing long-term changes in the distribution of the sexes by occupation. The Current Population Survey (CPS), conducted monthly for the Bureau of Labor Statistics by the Bureau of the Census, also uses the Census occupational classification system which was developed to facilitate comparability in occupational data produced by the Federal Government agencies. The CPS is particularly useful for providing information on year-to-year changes in occupational employment in the years between decennial censuses.²

The extensive reclassification of occupations accompanying the 1980 census, however, complicates the analysis of changes over time in sex composition. The Census Bureau's new classification system is consistent with the 1980 Standard Occupational Classification (SOC) system issued

by the Office of Federal Statistical Policy and Standards.³ Changes in occupational categories in previous censuses have always posed problems for historical comparisons, but the changes between the 1970 and 1980 censuses were more far-reaching.⁴ The 1970 classification had 441 occupational categories within 12 major groups compared with 503 categories, divided among 13 major groups, in 1980. Detailed 1970 occupational codes are now split among several 1980 codes and this splitting crosses major group boundaries.⁵ This means that if 1970 data based on the 1970 classification were compared with 1980 data based on the 1980 classification, it would be impossible to distinguish actual changes in employment in a given occupation from changes resulting from reclassification. These comparisons may be made, however, using CPS data, as that survey did not switch to the new classification system until January 1983. However, CPS data for the 1970's are based on the 1970 classification system and, unless revised, will not be comparable with data from 1983 or later.⁶

With regard to occupational statistics from the decennial census, the gap between the old and new classification systems can be bridged with the help of a sample of about 120,000 records from the 1970 census in which persons in the experienced civilian labor force were assigned both a 1970 and 1980 occupational code ("double coded"). The data available from this double-coded sample consist of a

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cross-classification of 1970 and 1980 detailed occupational codes disaggregated by sex only.

This article uses data from the 1970 double-coded sample as well as published 1970 and 1980 census detailed occupational data by sex. We examine the effects of reclassification and actual changes in employment by sex between 1970 and 1980 using the new classification system. We analyze the distribution of major occupational groups by sex, the percent female in detailed occupations, and the 25 occupations employing the largest numbers of men and women.

Data and method

From the double-coded sample of 1970 census data, we use a matrix that shows a mapping of the male and female labor force in each 1970 detailed occupational code into the 1980 codes. The matrix shows, for example, that the 1970 occupation of accountant (001), which is in the 1970 professional and technical major group, branches out into five 1980 codes: financial managers (007); accountants and auditors (023); other financial auditors (025); inspectors and compliance officers, except construction (036); and bookkeepers, accounting, and auditing clerks (337). This matrix is used to reorder the published 1970 occupational distribution by sex into 1980 occupational categories.

The reordered 1970 data are compared with 1980 census data to assess changes in the sex composition in major and detailed occupations.⁷ By contrast, the effects of reclassification are also assessed by comparing 1970 data coded to the 1970 scheme with 1970 data coded to the 1980 scheme.

Because this analysis relies principally on a subsample of 1970 data coded into the 1980 occupational classification scheme, the reliability of the double-coded data is of some concern. Errors in coding affect the quality of the data to an unknown extent. And even though the sample of 120,000 is large, sampling variability becomes a problem when dealing with several hundred occupations. Our examination of the double-coded data for completeness shows that more than 90 percent of the 1970 and 1980 occupational codes are represented.⁸

Another important consideration was the *reliability* of the double-coded data when disaggregated by sex and detailed occupations. We tested this by comparing the percent female in the double-coded data with the percent female in each occupation derived from published 1970 census data.⁹ If the percent female deviated by less than 5 percentage points, we regarded the double-coded data as reliable and representative of that occupation's sex composition. In 312 of the 1970 occupations—accounting for 87 percent of the labor force in 1970—the percent female deviated by less than 5 percentage points between the double-coded and published data. The reliability of the proportion of those in the occupation who were female in the double-coded data was lowest among those occupations employing *small* numbers of men and women. When examining sex composition in

detailed categories, the analysis is restricted to this subset of 312 occupational codes in 1970 and the 457 corresponding codes in 1980.¹⁰

We view the findings presented below as preliminary. Other research, relying on complex statistical techniques, is underway to evaluate comparability between the 1970 and 1980 occupational classifications.¹¹

Reclassification effects on major occupations

As shown in table 1, most major group categories underwent title changes between 1970 and 1980. For example, the 1970 major occupational group "clerical workers" coincides most closely with the 1980 title "administrative support, including clerical." However, the group known in 1970 as "professional, technical, and kindred workers" is split into two groups in 1980: "professional specialty occupations" and "technicians and related support occupations." Agricultural occupations were expanded in the 1980 scheme to include related off-farm activities, such as animal caretaking and gardening, and, to reflect this, the major group title was changed to "farming, forestry, and fishing occupations." Among service workers, "protective service workers" became a major group in 1980.

In the 1980 coding scheme, the "executive, administrative, and managerial" major group was expanded to include management-related occupations, such as accountants and auditors and personnel, training, and labor relations specialists, which were classified as professions in 1970. However, this expansion was more than offset by the movement of proprietors and other sales managers into the sales category and of precision production managers into the major group, "precision production, craft, and repair." That is, under the 1980 system, managers who perform some of the same duties as the persons they supervise are classified under the same major group as the persons they manage. Overall, reclassification results in fewer managers under the 1980 coding scheme than under that of 1970.

Several changes affected the major groups which were formerly referred to as blue-collar workers. Certain groups classified as operatives in 1970, such as butchers and meatcutters, dressmakers, and drywall installers, were moved to the "precision production, craft, and repair" major group in 1980. Under the 1980 classification system, those who set up machines for others are classified as machine operators rather than craftworkers. The 1980 "transportation and material moving occupations" also contain several former craft occupations. Finally, a number of operatives in 1970 were moved to the "handlers, equipment cleaners, helpers, and laborers" major group in 1980. Most of these transfers came out of the large 1970 residual categories, that is, "not elsewhere classified."¹²

How did reclassification affect the distribution of employment across major occupational groups? Distributions of 1970 data coded into both 1970 and 1980 major groups, shown in table 1, provide a rough indication. The first shows

the data sorted by 1970 major groups with "professional and technical" and "service" workers subdivided to conform more closely to the 1980 coding scheme. The second shows the distribution by 1980 major groups. The differences between these two columns can be viewed as a general reflection of classification changes affecting major groups.¹³

The results show that the two distributions are similar and suggest that census data for 1970 can be regrouped to be moderately comparable with the 1980 major categories. (The same holds true for the white-collar, blue-collar, service, and farm categories.) The regrouping of 1970 into 1980 major occupational categories obviously lacks complete precision. Reclassification shifted persons from managerial, professional, clerical, and operative major categories into technical, sales, farming, transportation, and handler (laborer) categories.¹⁴ However, the aggregate movements are considerably larger than the net results and therefore the characteristics of persons in the major occupational categories have changed.

Changes in major occupational groups by sex

The percent of the experienced civilian labor force who were women increased from 38 to 43 percent between 1970 and 1980. Still higher was the percent female among the net additions to the work force: 57 percent of the workers added in the 1970's were women.

Given the increase in female workers, were there significant changes in the distribution of the sexes in major categories during the 1970's? Before such a question can be answered, the effect, if any, of reclassification on the proportion of women within major occupational groups must be removed. The first two columns of table 2 show 1970 data classified into the 1970 major groups and into comparable 1980 major groups (or proportions thereof as out-

lined in table 1). By comparing the 1970 data under the two coding schemes, we obtain an indication of the ways in which the reclassification affected the female percentage in major occupational categories.

The technical major occupational group was affected the most by the reclassification, which increased the percent female from 24 to 34 percent. Almost all of the 240,000 practical nurses, most of whom are women, were reclassified from the service group to technicians under the 1980 system. This largely accounts for the rise in the proportion of women in the major category of technician.

The only other occupation in which reclassification changes the female percentage by more than 2 or 3 points is among handlers and laborers. Reclassification increases the women's proportion from 8 to 18 percent. One factor was the movement of 92 percent of packers and wrappers—63 percent of whom were women in 1970—from the operative category to the handler (laborer) category.

By comparing 1970 data, coded into the 1980 scheme, with 1980 data (columns 2 and 3 of table 2), actual changes in the percent female within major groups can be examined for the 1970's.¹⁵ Relative to the overall increase in the female proportion in the labor force, there was very little change in this proportion within three of the major occupational groups with very high proportions of male workers—handlers (laborers), transportation workers, and precision production (craft) workers. Likewise, among major groups that are largely composed of women—administrative support (clerical) and private household workers—there was little change in the female proportion during the decade. Increases in this percentage were slightly more substantial than overall increases in the labor force in "farming, forestry, and fishing" and "protective service" occupations, both of which are predominantly male. In major groups in

Table 1. Effects of reclassification on the distribution of employment across major occupational groups

1970 major occupational group	1970 data (1970 code)	1980 major occupational group	1970 data (1980 code)
Total	100.0	Total	100.0
Managers and administrators, excluding farm (201-245)	8.1	Executive, administrative, and managerial (003-307)	7.5
Part of professional and technical workers (001-076, 086-145, 174-195)	12.9	Professional specialty (043-199)	11.0
Part of professional and technical workers (080-085, 150-173)	1.6	Technicians and related support (203-235)	2.3
Salesworkers (260-285)	7.1	Sales occupations (243-285)	10.1
Clerical workers (301-395)	17.8	Administrative support, including clerical (303-389)	16.6
Private household (980-984)	1.5	Private household (403-407)	1.5
Part of service workers (960-965)	1.3	Protective service (413-427)	1.3
Part of service workers (901-954)	10.0	Service, excluding private household (433-469)	9.9
Farmers and farm managers, farm laborers and farm foremen (801, 802, 821-824)	3.1	Farming, forestry, and fishing occupations (473-499)	3.8
Craftworkers (401-575)	13.9	Precision production, craft, and repair (503-699)	14.1
Operatives, excluding transport (601-695)	14.1	Machine operators, assemblers, and inspectors (703-799)	11.2
Transport equipment operatives (701-715)	3.9	Transportation and material moving occupations (803-859)	4.9
Laborers, excluding farm (740-785)	4.7	Handlers, equipment cleaners, helpers, and laborers (863-889)	5.7

which the female component in 1970 hovered around the overall female proportion in the labor force, that is, professional specialties, technicians, and salesworkers, increases in female percentages were as great or slightly larger than average. Although these major occupational groups appear rather sex-neutral, a great degree of sex concentration exists within detailed occupations within each major group. Nearly one-half of female professionals are nurses or noncollege teachers.¹⁶

The one large change for women during the decade of the 1970's was their increased representation among the "executive, administrative, and managerial" major group. Whereas in 1970, only about 18 percent of managers were women, a rise in the female percentage twice that for the overall labor force occurred during the decade. By 1980, women were still underrepresented in the managerial category by comparison with their overall representation in the labor force but the female share among managers had risen to 31 percent.

Women in detailed occupations

The data in table 3 provide summary evidence both of the effects of occupational reclassification and of actual changes in the proportion of women in detailed occupations during the 1970's. The table has three panels showing the distribution of occupations, male employment, and female employment. Within each panel are three columns. The first two distributions are calculated from the double-coded data, restricted to the 312 occupations in which the difference in the female share in an occupation between the double-coded and published 1970 data does not exceed 5 percentage points. The third comes from the published 1980 data.

For purposes of discussion, occupations were classified as male-intensive, female-intensive, and neutral. Such categories have typically been defined arbitrarily by using a 5-, 10-, or 20-percentage point spread around the female proportion of the total work force.¹⁷ We use the conservative 20-percentage point spread to define "male-intensive" and

Table 2. Percent of women in major occupational groups, 1970, 1980

Major occupational group	1970 data (1970 code)	1970 data (1980 code)	1980 data (1980 code)
Executive, administrative, managerial	16.7	18.5	30.5
Professional speciality	42.3	44.3	49.1
Technicians	23.8	34.4	43.8
Sales	40.0	41.3	48.7
Administrative support, including clerical	73.6	73.2	77.1
Private household	96.8	96.3	95.3
Protective service	6.2	6.6	11.8
Other service	62.2	61.2	57.2
Farming, forestry, fishing	10.0	9.1	14.9
Precision production, including craft	5.0	7.3	7.8
Machine operators	39.2	39.7	40.7
Transportation	4.4	4.2	7.8
Handlers, laborers	8.3	17.5	19.8
Total	38.0	38.0	42.5

Table 3. Percent of women in deciles by number of occupations, male and female employment, 1970, 1980

Percent female in occupation	Total employment		
	1970 data (1970 code)	1970 data (1980 code)	1980 data (1980 code)
Total	100.0	100.0	100.0
Percent female:			
0-10	47.4	48.4	34.8
11-20	11.2	10.1	13.3
21-30	9.0	9.2	10.3
31-40	5.8	6.6	9.6
41-50	3.2	5.9	7.9
51-60	2.2	1.8	5.2
61-70	3.8	3.3	4.2
71-80	4.2	4.2	5.5
81-90	4.8	4.2	4.6
91-100	8.3	6.6	4.6
	Male employment		
	1970 data (1970 code)	1970 data (1980 code)	1980 data (1980 code)
Total	100.0	100.0	100.0
Percent female:			
0-10	52.6	55.5	37.0
11-20	20.4	19.6	16.2
21-30	7.6	8.7	18.4
31-40	7.2	4.0	9.1
41-50	2.1	4.2	6.4
51-60	2.2	.9	4.6
61-70	4.1	2.2	2.0
71-80	1.0	1.6	2.9
81-90	2.2	2.6	2.6
91-100	.6	.6	.7
	Female employment		
	1970 data (1970 code)	1970 data (1980 code)	1980 data (1980 code)
Total	100.0	100.0	100.0
Percent female:			
0-10	3.2	3.5	2.1
11-20	5.2	5.5	4.0
21-30	4.4	4.9	8.6
31-40	5.8	3.6	6.6
41-50	3.1	6.2	7.5
51-60	4.0	1.5	7.9
61-70	12.9	6.9	5.1
71-80	5.1	7.9	11.9
81-90	21.9	26.1	21.6
91-100	34.2	33.7	24.7

"female-intensive" occupations and select 40 percent as the base because the work force was 37 percent female in 1970, and 42 percent female in 1980. Male-intensive, or male-dominated, occupations are those in which 20 percent or less of the work force was female in 1980; female-intensive, or female-dominated, occupations are those in which 60 percent or more of the workers were female in 1980; and the remaining occupations in which 21 to 59 percent of the workers were female in 1980 are considered neutral occupations.

As shown in columns 1 and 2 of each panel of table 3, reclassification had little effect on the distribution of detailed occupations grouped by their female percentage. Under the 1970 coding scheme, 59 percent of all occupations were male-intensive, 21 percent were female-intensive, and 20 percent were neutral. The only difference exhibited by the 1980 coding scheme is a slightly higher proportion of neutral occupations and a slightly smaller proportion of female-intensive occupations. The number of male-intensive oc-

cupations as a fraction of the total remains the same under both schemes.

Similarly, employment shares by the female proportion in occupations were hardly affected by the occupational reclassification. Among women, there was no change. Using either the 1970 or 1980 codes, one finds about 75 percent of women in female-intensive occupations, 16 percent in neutral occupations, and 9 percent in male-intensive occupations in 1970. Among men, the degree of occupational segregation is increased slightly by the 1980 coding scheme. In shifting from the 1970 to 1980 scheme, the proportion of men employed rises slightly in male-intensive occupations, drops by the identical magnitude in neutral occupations, and remains the same in female-intensive occupations.

Actual changes in the female proportion in occupations during the decade are indicated by comparisons between columns 2 and 3 in each panel of table 3. The degree of sex segregation declined.¹⁸ This was brought about by a substantial drop in the proportion of all occupations which were male-intensive, a modest rise in neutral occupations, and no change in the fraction of female-intensive occupations. In terms of employment, the most notable change was an increase in the proportion of both sexes employed in neutral occupations—up by about 20 percentage points between 1970 and 1980. For men, the shift into neutral occupations coincided with a decline in employment in male-intensive occupations. For example, in 1970 more than half of all men worked in occupations that had 10 percent or fewer women; by 1980, that fraction was down to 37 percent. Similarly, among women, movement into neutral occupations paralleled a decline in their employment in female-intensive occupations.

Large occupational categories

Tables 4 and 5 show how the percent female changed during the decade in the 25 largest occupations for men and women in terms of 1980 employment. The largest occupations for men accounted for 42 percent of the male work force in 1980. (See table 4.) Fifteen of these occupations had less than 20 percent women in 1980. The female share rose most among accountants and auditors, an increase of 13 percentage points from 25 to 38 percent between 1970 and 1980. The female proportion changed less than 5 percentage points in 12 of the occupations, increased in seven, and decreased in two by more than 5 percentage points.

The 25 largest occupations for women employed 57 percent of the female work force in 1980. (See table 5.) Eighteen of these occupations were female-intensive in 1980, and in 15 of these the percent female changed less than 5 percentage points from 1970 to 1980. While the percent female increased 5 percentage points or more in six occupations, it declined 5 percentage points or more in three others.

Seven of the occupations overlap in tables 4 and 5 and are among the largest employers of both men and women. One of these occupations is managers, not elsewhere classified. It was the largest detailed occupation for men, the sixth largest for women, and one which grew to 27 percent female by 1980. However, this occupation has limited utility in making comparisons among demographic groups. It includes persons in quite diverse work settings inasmuch as it accounted for more than half of all executives, administrators, and managers (as did its 1970 counterpart, managers and administrators, not elsewhere classified, in relation to the major group, managers and administrators, except

Table 4. Female percentage and 1970–80 change in that percent in the 25 occupations with the largest numbers of men in 1980

Detailed 1980 occupational title and code	Number of men	Women's proportion in 1980	Women's proportion in 1970	1970–80 change in female percentage
Managers, n.e.c. (019)	3,824,609	26.9	15.3	11.6
Truckdrivers, heavy (804)	1,852,443	2.3	1.5	0.8
Janitors and cleaners (453)	1,631,534	23.4	13.1	10.3
Supervisors, production (633)	1,605,489	15.0	9.9	5.1
Carpenters (567)	1,275,666	1.6	1.1	0.5
Supervisors, sales (243)	1,137,045	28.2	17.0	11.2
Laborers (889)	1,128,789	19.4	16.5	2.9
Sales representatives (259)	1,070,206	14.9	7.0	7.9
Farmers (473)	1,032,759	9.8	4.7	5.1
Auto mechanics (505)	948,358	1.3	1.4	-0.1
Machine operators (779)	933,201	33.5	35.6	-2.1
Assemblers (785)	858,542	49.5	45.7	3.8
Construction laborers (869)	833,937	3.2	1.9	1.3
Welders and cutters (783)	744,585	5.9	6.2	-0.3
Farmworkers (479)	694,666	21.7	14.9	6.8
Supervisors, n.e.c. (558)	672,477	1.8	1.2	0.6
Accountants, auditors (023)	626,558	38.2	24.6	13.6
Electricians (575)	594,781	2.0	2.0	0.0
Cooks (436)	578,320	57.2	67.2	-10.0
Teachers, elementary (156)	569,823	75.4	83.9	-8.5
Managers, marketing (013)	567,362	17.6	7.9	9.7
Stock handlers, baggers (877)	560,360	21.0	12.5	8.5
Truckdrivers, light (805)	512,671	6.8	4.7	2.1
Machinists (637)	500,294	4.9	3.0	1.9
Guards, excluding public (426)	499,152	13.5	4.0	9.5

n.e.c. = not elsewhere classified.

Table 5. Female percentage and 1970-80 changes in that percent in the 25 occupations with the largest number of women in 1980

Detailed 1980 occupational title and code	Number of women	Women's proportion in 1980	Women's proportion in 1970	1970-80 change in female percentage
Secretaries (313)	3,949,973	98.8	97.8	1.0
Teachers, elementary school (156)	1,749,547	75.4	83.9	-8.5
Bookkeepers (337)	1,700,843	89.7	80.9	8.8
Cashiers (276)	1,565,502	83.5	84.2	-0.7
Office clerks (379)	1,425,083	82.1	75.3	6.8
Managers, n.e.c. (019)	1,407,898	26.9	15.3	11.6
Waitresses (435)	1,325,928	88.0	90.8	-2.8
Salesworkers (274)	1,234,929	72.7	70.4	2.3
Registered nurses (095)	1,232,544	95.9	97.3	-1.4
Nursing aides (447)	1,209,757	87.8	87.0	0.8
Sewing machine operators (744)	860,848	94.1	94.9	-0.8
Assemblers (785)	841,158	49.5	45.7	3.8
Cooks (436)	771,878	57.2	67.2	-10.0
Typists (315)	716,449	96.8	94.8	2.0
Child-care workers (468)	570,794	93.2	92.5	0.7
Receptionists (319)	525,290	95.8	95.3	0.5
Maids and housemen (449)	510,277	75.8	94.3	-18.5
Janitors and cleaners (453)	498,623	23.4	13.1	10.3
Hairdressers (458)	490,785	87.8	90.0	-2.2
Teachers, secondary school (157)	486,603	56.5	49.6	6.9
Machine operators (779)	471,011	33.5	30.2	3.3
Bank tellers (383)	464,139	91.1	86.9	4.2
Supervisors, sales (243)	445,492	28.2	17.0	11.2
Practical nurses (207)	420,412	96.6	96.1	0.5
Hand packagers (888)	415,925	66.8	67.0	-0.2

n.e.c. = not elsewhere classified.

farm). Further disaggregation might reveal considerably more variability in the degree of sex concentration than is shown by this one occupational category.¹⁹

Among the other six occupations which employed large numbers of men and women, elementary school teachers and cooks saw declines in the proportion of women. Assemblers and machine operators changed less than 5 percentage points, and sales supervisors and janitors and cleaners increased 10 percentage points or more during the 1970's.

Reclassification and change

In this article, the effect of reclassification on the sex composition of major and detailed occupational groups was examined. The 1980 classification system was used to assess changes in the sex composition of occupations during the 1970's.

The major findings were:

- Reclassification increased the female proportion in the major groups of "technicians and related support occupations" and among "handlers, equipment cleaners, and laborers." It did not alter the proportion of detailed occupations which were either male-intensive or female-

intensive; nor did reclassification have much effect on the share of the male and female labor force in sex-neutral versus sex-segregated detailed occupations.

- In terms of actual changes in employment during the 1970's, the most significant change in the distribution of the sexes among major groups was that there were many more female managers. The proportion of detailed occupations which were dominated by men declined but the share that were female-intensive remained the same.
- Occupational segregation in employment declined during the 1970's, largely because the proportion of both men and women in sex-neutral occupations increased. Men were no more apt to be employed in female-intensive occupations in 1980 than in 1970, but fewer of them were in occupations which were less than 20 percent female. The proportion of women employed in male-intensive occupations did not change during the decade but there were large increases in the female share of a few professional and managerial occupations and the proportion of the female labor force in female-intensive occupations declined. □

FOOTNOTES

¹Mary Corcoran, Greg J. Duncan, and Michael Ponza, "Work Experience, Job Segregation and Wages," revised version of paper prepared for the National Academy of Sciences Conference on Job Segregation by Sex, May 1982; Paula England, "The Failure of Human Capital Theory to Explain Occupational Sex Segregation," *Journal of Human Resources*, Summer 1982, pp. 358-70; Andrea H. Beller, "Occupation segregation by Sex: Determinants and Changes," *Journal of Human Resources*, Sum-

mer 1982, pp. 371-91; Nancy F. Rytina, "Occupational Segregation and earnings differences by sex," *Monthly Labor Review*, January 1981, pp. 49-53; Steven D. McLaughlin, "Occupational Sex Identification and the Assessment of Male and Female Earnings Inequality," *American Sociological Review*, December 1978, pp. 909-21; and Donald J. Treiman and Heidi I. Hartmann, eds., *Women, Work, and Wages: Equal Pay for Jobs of Equal Value* (Washington, National Academy Press, 1981).

²For detailed occupational data available in published tabulations of annual averages from the Current Population Survey (CPS) 1972–82, see *Labor Force Statistics Derived from the Current Population Survey: A Databook, Volume 1* (Bureau of Labor Statistics, 1982), table B-20; and *Employment and Earnings*, January 1983, table 23. For an analysis of 1972–80 change in occupations based on CPS data see Carol Boyd Leon, “Occupational winners and losers; who they were during 1972–80,” *Monthly Labor Review*, June 1982, pp. 18–28.

³The Office of Federal Statistical Policy and Standards is now in the Office of Management and Budget and was formerly in the Department of Commerce.

⁴Social Science Research Council, “Alternative Methods for Effecting the Comparability of Occupation Measurement over Time,” Report of the Subcommittee on Comparability of Occupation Measurement to the Social Science Research Council Advisory and Planning Committee on Social Indicators and the Bureau of the Census, July 1983.

⁵John A. Priebe, “Occupational Classification in the 1980’s,” paper presented at the Annual Meeting of the Southern Sociological Association, 1980. Also see U.S. Department of Commerce, Office of Federal Statistical Policy and Standards, *Standard Occupational Classification Manual: 1980*. Twelve principles were followed in developing the Standard Occupational Classification, the most important of which were that the classification system should realistically reflect the current occupational structure of the United States, and that an occupation should be classified on the basis of the work performed. The size of occupational categories was not a crucial determinant; large size was not sufficient reason for separate identification of a group, nor did small size necessarily preclude it.

⁶To aid comparability between the 1982 and 1983 Current Population Survey (CPS) occupational data, 20 percent of the sample in 6 months of 1981 and 1982 were double coded into both 1970 and 1980 codes, and revisions of annual average data using the 1980 codes for the 1970’s are underway. However, the double-coded CPS data are not considered reliable at the detailed level when disaggregated by sex. For further discussion of the effect of the new occupational classification system on the CPS, see John E. Bregger, “Labor force data from the CPS to undergo revision in January 1983,” *Monthly Labor Review*, November 1982, pp. 3–6; and Gloria Peterson Green, Khan tan Dinh, John A. Priebe, and Ronald R. Tucker, “Revisions in the Current Population Survey beginning in 1983,” *Employment and Earnings*, February 1983, pp. 7–15.

⁷A tabulation of 503 detailed occupations by sex from the 1980 census can be found in: *Detailed Occupation and Years of Schooling Completed by Age for the Civilian Labor Force by Sex, Race and Spanish Origin: 1980*, Supplementary Report PC 80-S1-8 (Bureau of the Census, 1983), table 1. A tabulation of the 441 detailed occupations by sex from the 1970 Census can be found in: *Characteristics of the Population: U.S. Summary*, PC (1)-D (Bureau of the Census, 1973), table 221.

⁸Of the 441 detailed 1970 occupational codes, 407—representing 94 percent of the 1970 work force—appear in the double-coded data. The 1970 codes excluded from the double-coded data were mostly apprentice occupations or three-digit allocation codes for the major occupational groups. In the double-coding operation, persons who had been given an allocation code in the 1970 census were reassigned a three-digit code. Reassignment was proportional to the relative size of detailed occupations within major

groups. Most apprentices were assigned the code for the trade. Excluded from the double-coded file were persons with 1970 codes of armed forces, unemployed, or last worked in 1959 or earlier.

The 407 codes map into 495 1980 codes. The 1980 codes which did not appear in the double-coded data represented occupations which, combined, employed less than 1 percent of the 1980 work force. These codes included: chief executives and administrators; public administration; agricultural engineers; physicians’ assistants; communications equipment operators, not elsewhere classified; marine life cultivation workers; inspectors, agricultural products; miscellaneous precision woodworkers; and marine engineers.

⁹Standard errors for the double-coded data are not available.

¹⁰The 28 1980 codes eliminated (495–457) consisted of occupations with very few workers because the remaining 457 codes represent 99 percent of the 1980 work force.

¹¹For example, experimentation is currently underway in which the use of logistic regression to impute 1980 occupational values is compared with the traditional double-coding method. See Social Science Research Council, “Alternative Methods.”

We also evaluated the degree of correspondence between the 1970 and 1980 codes. Using the double-coded matrix sorted by the 495 1980 codes and 407 1970 codes (see footnote 8), we found that the 1980 codes traced back into one 1970 code in about one-third of the 1980 codes. The extent of noncomparability is much less when considered in terms of employment flows. Defining correspondence as shifts where 80 percent or more of the workers with a given 1980 code trace back to one 1970 code, we found this the pattern of movement for seven-tenths of the 1970 work force. In this respect the degree of correspondence is lowest among “executives, administrators, and managers” and “operators, assemblers, and inspectors.”

¹²Priebe, “Occupational Classification.”

¹³We used the double-coded data because the 1970 employment distributions by major groups in the double-coded and published 1970 data are close but not identical. The differences are all less than 1 percent with the exception of operators (2.6 percent greater in the double-coded than in the published distribution).

¹⁴Green and others, “Revisions in the Current Population Survey.”

¹⁵The double-coded data were used as the base to compute actual change because the percent female among major groups generally differs by less than 1 percent between the double-coded and published 1970 data.

¹⁶Nancy F. Rytina, “Earnings differences between men and women: a look at specific occupations,” *Monthly Labor Review*, April 1982, pp. 25–31.

¹⁷See for example, Carol Jusenius, “Occupational Change, 1967–71,” ch. 2 in *Dual Careers: Longitudinal Study of Labor Market Experience of Women, Volume 3* (Columbus, Ohio, Center for Human Resource Research, 1975); and McLaughlin, “Occupational Sex Identification.”

¹⁸These results are consistent with an analysis based on May 1971 and March 1981 Current Population Survey data (using the 1970 occupational classification) by Jerry Jacobs, “Changes in Sex Segregation in the 1970’s” (Cambridge, Mass., Harvard University, Department of Sociology).

¹⁹See Jacobs, “Changes in Sex Segregation.”